

200312768-1

10/686,110

IN THE SPECIFICATION:

Please amend the following paragraphs as indicated:

[0048] As illustrated in Fig. 6C, the display system (100; Fig. 5) alternates between displaying the first sub-frame (160) in the first image sub-frame location (185) and displaying the second sub-frame (161) in the second image sub-frame location (186) that is spatially offset from the first image sub-frame location (185). More specifically, the wobbling device (104; Fig. 5) shifts the display of the second sub-frame (161) relative to the display of the first sub-frame (160) by the vertical distance (163) and by the horizontal distance (164). As such, the pixels of the first sub-frame (160) overlap the pixels of the second sub-frame (161). In one embodiment, the display system (100; Fig. 5) completes one cycle of displaying the first sub-frame (160) in the first image sub-frame location (185) and displaying the second sub-frame (161) in the second image sub-frame location (186) resulting in a displayed image with an enhanced apparent resolution. Thus, the second sub-frame (161) is spatially and temporally displayed displaced relative to the first sub-frame (160).

[0056] Thus, as shown by the examples in Figs. 6-9, by generating a number of image sub-frames for an image frame and spatially and temporally displaying displacing the image sub-frames relative to each other, the display system (100; Fig. 5) can produce a displayed image with a resolution greater than that which the SLM (103; Fig. 5) is configured to display. In one illustrative embodiment, for example, with image data having a resolution of 800 pixels by 600 pixels and the SLM (103; Fig. 5) having a resolution of 800 pixels by 600 pixels, four-position processing by the display system (100; Fig. 5) with resolution

200312768-1

10/686,110

adjustment of the image data produces a displayed image with a resolution of 1600 pixels by 1200 pixels.

[0061] As shown in Fig. 10, the first image sub-frame (160) is displayed between times 0 and T/2 and the second image sub-frame (161) is displayed between times T/2 and T. Thus, an image sub-frame period, or time period, is T/2 where two image sub-frames are generated and displayed for one frame. However, if there are more than two image sub-frames generated and displayed per frame, the image sub-frame period will vary accordingly. In one embodiment, full color spectrum or complete color sub-frames occur an integer number of times during each image frame period, T. In other words, the scrolling color device (102; Fig. 5) may be configured to scroll through each color once during each image sub-frame period, T/2, resulting in complete color sub-frames. The time required to scroll through each color once will be referred to herein and in the appended claims as a "scrolling color period." For example, Fig. 10 shows that the scrolling color device (102; Fig. 5) is configured to cycle through the primary colors red (114), green (115), and blue (116) one time during the ~~first~~ first sub-frame (160) period and one time during the second sub-frame (161) period. As will be understood by one skilled in the art, the order in which the primary colors red (114), green (115), and blue (116) are scrolled across a particular pixel may vary as best serves a particular application.

[0063] As will be understood by one skilled in the art, each particular pixel may have a different sequence of colors focused thereon at any given time, depending on its position in the SLM (103; Fig. 5). Furthermore, the number of different colors that may be scrolled across a particular pixel during each image sub-frame period may be any number.

200312768-1

10/686,110

For example, as shown in Fig. 11, the scrolling color device (102; Fig. 5) may be configured to generate five colors instead of the three primary colors. The five colors may be, for example, red (114), yellow (117), green (115), cyan (118), and blue (116) in any order. In this case, as shown in Fig. 11, the scrolling color device (102; Fig. 5) is configured to cycle through the five colors one time during the first first sub-frame (160) period and one time during the second sub-frame (161) period.